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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/712,611	11/13/2003	Theodore Bydalek	11-9540-6520-0000-2	9015

7590 05/17/2005

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EXAMINER

SHARP, JEFFREY ANDREW

ART UNIT	PAPER NUMBER
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3677

DATE MAILED: 05/17/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.		Applicant(s)	
	10/712,611		BYDALEK ET AL.	
	Examiner		Art Unit	
	Jeffrey Sharp		3677	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-47 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-47 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 November 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Status of Claims

- [1] Claims 1-47 are pending.

Drawings

- [2] The drawings are objected to because Figures 16 and 17 are unclear.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

[3] Claims 19 and 27 are objected to because of the following informalities:

There is insufficient antecedent basis for "the cap", because a cap is not positively recited. These claims have been treated as they are understood.

Appropriate correction is required.

Double Patenting

[4] The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

[5] Claims 1-22 and 26-47 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-6 of U.S. Patent No. 6,749,386 to Harris in view of Toth et al. US-5,302,069.

Harris already substantially discloses the nut and washer features except for a "retaining surface" on the nut configured to frictionally engage a press-fitted cap. The height of each undulating plateau disclosed is capable of being sized relative to any structural feature(s). In

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general, Toth et al. teach the improvement of providing an aesthetic/functional/protective cap (90) press-fitted¹ onto a retaining surface (30) of a nut (24). See Toth et al. Figure 6.

At the time of invention, it would have been obvious to one of ordinary skill in the art to employ a retaining surface to the nut taught by Harris, in order to provide a press-fit surface for attaching a protective or decorative cap to said nut, as suggested by Toth et al., for the following reason: In the event the cap becomes inadvertently displaced from the nut, a standard wrench could still be used to remove the nut, **without** impeding a standard wrench from turning the nut while the cap is still attached. In the past, caps completely covering the nut would become displaced, leaving a non-standard nut beneath -- a big problem for emergency changes with limited resources.²

Claim Rejections - 35 USC § 102

[6] The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

¹ Toth et al. US-5,302,069, col. 4 lines 37-39.

² Motivation is clearly described in the Toth et al. reference.

[7] Claims 1-4 rejected under 35 U.S.C. 102(b) as being anticipated by Bias US-5,082,409.

In short, Bias teaches a cap (10) over a nut (N) having a torque transmitter (S), said cap being engageable and receivable within a wrench, wherein the two are joined by an "interference fit".

[8] Claims 1-4 rejected under 35 U.S.C. 102(b) as being anticipated by Cantrell US-4,784,555.

In short, Cantrell teaches a cap (20) over a nut (12) having a torque transmitter (sides of 12), said cap being engageable and receivable within a wrench, wherein the two are joined by an "interference fit". Should the cap be removed, a wrench is capable of engaging the nut to apply a torque.

Claim Rejections - 35 USC § 103

[9] The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

[10] Claims 5-17 and 33-47 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over McKinlay US-5,626,449.

In short, McKinlay teaches a fastener assembly comprising:

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a nut (14) having a torque-transmitting surface(s) (24) configured to engage a wrench and an annular surface (27) comprising an undulating surface (26) having V-shaped undulations (peaks and valleys), and

a washer (16) having a bearing surface (28), a clamping surface (30) having a plurality of protrusions (52),

wherein said nut is configured and sized to receive a cap via an interference fit.

Note that McKinlay acknowledges that a height (e.g., height 50 of the V-shaped undulations 36) is related to thread spacing³.

Also note that McKinlay refers to Herpolsheimer US-5,080,545,⁴ who discloses peaks, valleys, and plateaus⁵.

Furthermore, although McKinlay prefers a plateau height slightly less than the thread pitch for facilitating cam-over and for reducing undue elongation of the threaded stud (40), McKinlay as well as those having an ordinary skill in the art would acknowledge that a greater height could be employed with expected "locking" results due to tensile loading of the stud⁶. Note that it has been held that a modification such as a mere change in size of a component would be obvious. A change in size is generally recognized as being within the level of ordinary skill in the art. *In re Rose*, 105 USPQ 237 (CCPA 1955). See also, MPEP § 2144.04 which states: *In re Rinehart*, 531 F.2d 1048, 189 USPQ 143 (CCPA 1976) ("mere scaling up of a prior

³ McKinlay US-5,626,449, col. 4 line 60 - col. 5 line 5.

⁴ McKinlay US-5,626,449, col. 1 lines 10-11.

⁵ Herpolsheimer US-5,080,545, elements 27, 28, and 29.

⁶ As evidenced by McKinlay US-5,409,338 column 2 lines 49-52

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art process capable of being scaled up, if such were the case, would not establish patentability in a claim to an old process so scaled." *531 F.2d at 1053, 189 USPQ at 148.*) In *Gardner v. TEC Systems, Inc.*, *725 F.2d 1338, 220 USPQ 777 (Fed. Cir. 1984)*, *cert. denied, 469 U.S. 830, 225 USPQ 232 (1984)*, the Federal Circuit held that, where the only difference between the prior art and the claims was a recitation of relative dimensions of the claimed device and a device having the claimed relative dimensions would not perform differently than the prior art device, the claimed device was not patentably distinct from the prior art device.

[11] Claims 1-4, 18-22, and 26-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over McKinlay US-5,626,449 as discussed above, in view of Toth et al. US-5,302,069.

In short, McKinlay substantially teaches a fastener assembly comprising:

a nut (14) having a torque-transmitting surface(s) (24) configured to engage a wrench and an annular surface (27) comprising an undulating surface (26) having V-shaped undulations (peaks and valleys), and

a washer (16) having a bearing surface (28), a clamping surface (30) having a plurality of protrusions (52),

wherein said nut is configured and sized to receive a cap via an interference fit.

However, McKinlay fails to disclose expressly, a cap shaped to be engaged with a wrench and press fitted onto said nut.

Toth et al. suggest a "retaining surface" (30,32) on a wheel nut (24) having a frictional surface to receive a cap (22,90). The cap may be press-fitted on⁷. The torque-transmitting surface may be engaged without engaging the cap⁸.

At the time of invention, it would have been obvious to one of ordinary skill in the art to employ a retaining surface to the nut taught by McKinlay, in order to provide a press-fit surface for attaching a protective or decorative cap to said nut, as suggested by Toth et al., for the following reason: In the event the cap becomes inadvertently displaced from the nut, a standard wrench could still be used to remove the nut, **without** impeding a standard wrench from turning the nut while the cap is still attached. In the past, caps completely covering the nut would become displaced, leaving a non-standard nut beneath -- a big problem for emergency changes with limited resources.⁹

[12] Claims 23-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over McKinlay US-5,626,449 in view of Toth et al. US-5,302,069 as discussed above, in further view of Notaro US-5,324,148.

In short, McKinlay v. Toth et al. substantially teaches a fastener assembly comprising:
a nut having a torque-transmitting surface(s) configured to engage a wrench, a retaining surface for accepting a cap, and an annular surface comprising an undulating surface having V-shaped undulations (peaks and valleys);

⁷ Toth et al. US-5,302,069, col. 4 lines 37-39.

⁸ Pertinent to instant claim 27.

⁹ Motivation is clearly described in the Toth et al. reference.

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a washer having a bearing surface, a clamping surface having a plurality of protrusions;
and

a cap press-fitted onto said nut;

However, McKinlay v. Toth et al. fails to disclose expressly, the cap and/or retaining surface of the nut having a plurality of notches.

Notaro broadly discloses "knurls" (14,19) on both cap (13) and fastener (10) so as to alleviate disadvantageous shaving, excessive material flow, and cocking during press fitting¹⁰. The examiner takes official notice that it is known to provide knurls to press-fit objects.

At the time of invention, it would have been obvious to one of ordinary skill in the art, to modify the cap and nut taught McKinlay v. Toth et al., by employing a plurality of notches for an improved interference fit.

Note that specific angles of said knurls disclosed by Applicant would be considered an obvious modification of Notaro by those having an ordinary skill in the art¹¹.

Conclusion

[13] The prior art made of record and not relied upon is considered pertinent to applicant's disclosure is as follows:

¹⁰ Notaro US-5,324,148, col. 2 lines 19-27.

¹¹ As evidenced by cited NPL 26th ed. Machinery's Handbook.

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Frieberg US-4,793,752 substantially teaches a nut and washer having most of the claimed features, including a resilient washer clamping surface (42) to allow some axial displacement during cam-action and for frictional engagement.

Chang US-6,776,565

Ewing US-5,190,423

Herpolsheimer US-3,263,727

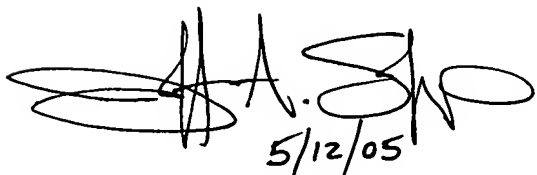
McKinlay US-5,409,338 column 2 lines 43-44 and 49-52

[14] Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrey Sharp whose telephone number is (571) 272-7074. The examiner can normally be reached 7:00 am - 5:30 pm Mon-Thurs.

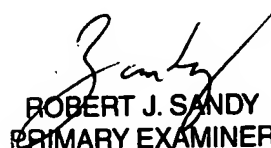
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, J.J. Swann can be reached on (571) 272-7075. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JAS



5/12/05



ROBERT J. SANDY
PRIMARY EXAMINER